SAVĬTS'KYY, I.V.

Effect of protective inhibition upon the nitrogen and protein in the blood. Medych.zhur. 22 no.4:48-61 '52. (MLRA 6:10)

1. Instytut eksperymental'noyi biolohiyi i patolohiyi im. akad. O.O.Bohomol'-tsya i Odes'kyy farmatsevtychnyy instytut.
(Blood--Analysis and chemistry) (Sleep)

SAVITSKIY, I.V.

Changes in the nitrogen and protein in blood in rabbits under the effect of sleep induced by barbamil. Medych.zhur. 22 no.5:12-25 '52. (MLRA 6:10)

1. Instytut eksperymental'noyi biologiyi i patologiyi im. akad. O.O.Bohomol'-tsya i Odes'kyy farmatsevtichnyy instytut.
(Blood--Analysis and chemistry) (Sleep)

SAVITS'KIY, I.V.

Changes in the nitrogen and protein content of blood under the effect of irritation of the central nervous system. Medych.zhur. 22 no.6:15-26 '52. (MLRA 6:10)

1. Instytut eksperymental'noyi biologiyi i patologiyi im. akad. O.O.Bohomol'-tsya i Odes'kyy farmatsevtychnyy instytut. (Blood) (Nervous system)

SAVITSKIY, I.V.

Effect of stimulation of the central nervous system on functional modifications in the skin; review of some erroneous concepts. (MLRA 8:1)
Vop. fiziol. no.6:102-114 '53.

1. Odesskiy farmakologicheskiy institut
(SKIN, physiology,
eff. of stimulation of CNS in animals)
(CENTRAL NERVOUS SYSTEM, physiology,
eff. of stimulation on skin in animals)

SAVITS'KIY, I.V.

Changes in the nitrogen-albumin contents of the blood in rabbits after treating the central nervous system with small doses of strychnine. Medych. zhur. 23 no.1:23-32 '53. (MLRA 8:2)

1. Institut eksperimental'noi biologii i patologii im. akad. O.O.Bogomol'tsya i Odes'kiy farmatsevtichniy institut.
(STRYCHNINE--PHYSIOLOGICAL EFFECT) (NERVOUS SYSTEM)
(BLOOD)

Expts were conducted on 14 rabbits which were subjected to repeated loss of blood. Some rabbits were administered 0.1 mg/kg of strychnine subcutaneously and others were administered 0.2 mg/kg. On the basis of data obtained, it can be concluded that small doses of strychnine produce better results in the process of intensification of blood restoration. The action of smaller doses of strychnine on the centfal nervous system results in some decrease in amino-nitrogen content; administration of 0.1 mg/kg results in a considerable increase in fibrinogen content. Urea nitrogen in serum remains unchanged irrespective of the size of the dose.

Savits'kiy, I.V.

SAVITS'KIY, I.V.

Changes in some stages of protein metabolism under the effect of stimulation of the central nervous system with cardiazole. Medych. zhur. 23 no.3:7-17 '53. (MLRA 8:2)

1. Institut eksperimental'noi biologii i patologii im. akad. O.O.Bogomol'tsya i Odes'kiy farmatsevtichniy institut.
(PROTEIN METABOLISM) (NERVOUS SYSTEM) (METRAZOLE)

SAVITSKIY, I.V.

USSR.

Changes of the nitrogen-protein composition of blood of rabbits implanted with a cold-preserved cutis. I. V. Savitskii. *Med. Zhur., Akad. Nauk Ukr. R.S.R.* 23, No. 4, 26-32(1953); *Referat. Zhur., Khim.* 1954, No. 20111.—Rabbits implanted in the occipital part of the body with pieces of cold-preserved cutis (by the method of V. P. Filatov) were investigated 4 times during 15 days of the expt. for changes in total N of the blood plasma and N of blood albumin, globulin, fibrinogen, urea, amino acids, and residual N. In spite of removal of blood for analyses (4 × 8 ml.) total N of the blood plasma remained nearly unchanged, albumin N slightly increased, and globulin N correspondingly decreased, thus increasing the albumin/globulin ratio. The amt. of fibrinogen also increased, while that of residual N and urea N slightly decreased. E. W.

SAVITSKIY, I.V.

Modification of absorbing capacity of the skin following inhibiting action of the central nervous system. Vopr.fiziol. no.9:137-146 '54. (MIRA 14:1)

1. Odesskiy farmatsevticheskiy institut, kafedra biokhimii.
(SKIN, physiology,
absorp. capacity, regulation by SNS)
(CENTRAL NERVOUS SYSTEM, physiology,
regulation of absorp. capacity of skin)

SAVITS'KIY, I.V.

Modifications in the nitrogen-protein composition of the blood following implantation of refrigerated skin in rabbits under barbamil sleep. Medych. zhur. 24 no. 1:79-87 '54. (MLRA 8:10)

1. Institut eksperimental'noi biologii i patologii im. akad. O.O. Bogomol'tsya, viddily eksperimental'noi onkologii i patokhimii; Odes'kiy farmatsevtychnyy institut.

(SKIN TRANSPLANTATION,
eff. of refrigerated skin grafting on blood proteins in sleep in rabbits)
(BLOOD PROTEINS,
eff. of grafting or refrigerated skin in rabbits in sleep)
(SLEEP, effects,
on blood protein response to grafting of refrigerated skin in rabbits)

SAVITS'KIY, I. V.

Changes in the content of nitrogenous substances of the blood taking place under the influence of deep central nervous system retardation. I. V. Savits'kiĭ (A. A. Bogomolets Inst. Exptl. Biol. Pathol., Pharm. Inst., Odessa). *Ukrain. Biokhim. Zhur.* 26, 38-51(in Russian, 51-3)(1954).— Narcosis and narcotic sleep were effected by the administration of veronal and barbamil. Sixteen rabbits were used in connection with the veronal studies and 11 with barbamil. Under the influence of veronal narcosis the serum albumins are lowered considerably and remain so for 10 days. In narcotic sleep the lowering of the blood level of serum albumin is of a lesser degree and returns to normal rapidly upon waking. In veronal narcosis the serum globulin content is lowered and stays so during the entire period of narcosis, while in veronal narcotic sleep the serum globulin level remains unchanged or rises only slightly. As a rule, veronal narcosis lowers the blood fibrinogen only slightly or not at all. In veronal sleep the fibrinogen rises. In veronal narcosis there is a considerable accumulation of residual N, primarily as a result of urea and amino acids accumulation during and 10 days following the active narcosis. These effects are less pronounced in narcotic sleep. In the case of barbamil narcosis and narcotic sleep effects on the serum albumins of the blood are identical in the level reduction. Barbamil narcosis lowers the level of serum albumins; barbamil narcotic sleep has no immediate effect, but after 10 days a rise in the serum albumin may occur, and the serum globulin as a rule is lowered. The blood fibrinogen content in sleep and immediately upon rising increases as a rule. In barbamil sleep the fibrinogen content is not increased, and upon waking is lowered. Under the influence of barbamil narcosis the concn. of residual N increases primarily as a result of urea accumulation. In the case of barbamil sleep no changes are observed in residual N, urea N, and amino acid N. Veronal narcosis results in a no. of functional disturbances, prolonged sluggishness, paralysis of hind legs, and return to normality is extended over a long period. The effects of barbamil narcosis are less severe, the general tonus of the animal is heightened, mobility and nutrition are unimpaired, and return to normal state is rapid.

B. S. Levine

SAVITSKIY, Ivan Vladimirovich.

Odessa Pharmaceutical Inst. Academic degree of Doctor of Medical Sciences, based on his defense, 27 May 1954, in the Council of the Kiev Order of Labor Red Banner Medical Inst imeni Bogomolets, of his dissertation entitled: "Variation in the Nitro-Albuminous Composition of the Blood during Various Functional Conditions of the Central Nervous System."

Academic degree and/or title: Doctor of Sciences

SO: Decisions of VAK, List No. 10, 30 Apr 55, Byulleten' MVO SSSR, No. 15, Aug 56, Moscow, pp. 5-24, Uncl. JPRS/NY-537

SAVITS'KIY, I.V.

MD

Similarities between the processes of protein metabolism under conditions of nervous system stimulation and in narcotic sleep. I. V. Savits'kil. *Fiziol. Zhur., Akad. Nauk Ukr. R.S.R.* 1, No. 4, 103–9 (Russian summary, 109–10) (1955).—Tests were performed on rabbits during 21 days. Stimulation of the central nervous system was accomplished with cardiazole, caffeine, phenamine, and strychnine. Sleep was induced with different doses of barbamil, bromide, and veronal. Tests were made for changes in the plasma protein fractions (albumins, globulins, fibrinogen), concn. of residual N, urea, amino acids, and the redistribution of amino acids between the plasma and the erythrocytes. The stimulation of the central nervous system produced changes in the blood-protein indexes which in character and intensity were similar to those resulting from narcotic sleep. The so-called sleep inhibition is, therefore, looked at as an active process. In narcotic sleep, in addn. to deep inhibitory influences upon the cortex of the cerebrum, there is an extension of such inhibition into the lower regions of the nervous system, which control the vegetative functions and the biochem. processes and which bring about a weakening of the basal metabolism. Narcosis weakens respiration and depresses the oxidation-reduction processes of the tissues to an extent considerably greater than does normal sleep. Narcotization is accompanied by the introduction of a large no. of homologous substances which may occasion the narcotoxication of the nervous system and other tissues of the organism.

B. S. Levine

SAVITS'KIY, I-V.

Changes in the nitrogen-protein composition of the blood of rabbits following the implantation of preserved skin and strychnine stimulation of the central nervous system. I. V. Savits'kii (Pharm. Inst., Odessa). *Fiziol. Zhur., Akad. Nauk Ukr. R.S.R.* 1, No. 6, 28-35(Russian summary, 35-6)(1955).—Expts were performed on rabbits. During the exptl. period animals received 7 strychnine injections at the rate of 0.7 mg/kg. Blood letting and chemical blood analyses were made prior to and during the course of strychnine administration. Implantation of preserved skin was made prior to the second bleeding. Blood analyses were made for a period of 21 days. Skin implantation under condition of central nervous system (CNS) stimulation promotes the renewal of the basic proteins of the blood following blood losses. Under such conditions the concn. of blood proteins immediately following the loss of blood rises above the normal level. This does not occur in the case of skin implantation under the normal state of the CNS. The concn. of the albumin is rapidly reconstituted, while the concn. of the globulin is lowered. Following the loss of blood and preserved skin implantation under conditions of strychnine stimulation of the CNS the blood albumins are reconstituted at a somewhat lowered rate, while the concn. of the globulins is increased. The implantation of preserved skin without strychnine stimulation of the CNS is followed by a considerable but temporary rise in the fibrinogen of the blood; in the case of strychnine stimulation of the CNS this rise persists. In some instances of loss of blood and skin implantation under conditions of strychnine CNS stimulation, the effects of tissue therapy are enhanced in some and weakened in other animals. The effect of strychnine stimulation of the CNS on the metabolic processes of the organism persists for a time after the injections are discontinued. The effect of implantation of preserved skin on some phases of protein metabolism is dependent upon the state of the CNS and the conditioned reflexes. B. S. Levine

PORTNOV, A.I.otvetstvennyy redaktor; KNIZHKO, P.O.,redaktor; KRAMARENKO, V.F.,redaktor; NAUMENKO, M.A.,redaktor; PIVNENKO, G.P.,redaktor; ROZENBERG, M.A.,redaktor; SAVITSKIY, I.V.,redaktor; TROTSENKO, A.G.,redaktor; SHELUD'KO, V.M.,redaktor; VAYSMAN, G.A.,redaktor; MEDVEDEVA, N.B.,redaktor; GIMSHTEYN, A.D.,tekhnicheskiy redaktor

[Problems in pharmacy; a collection of scientific papers from pharmaceutical schools of the Ukraine] Nekotorye voprosy farmatsii; sbornik nauchnykh trudov vysshikh farmatsevticheskikh uchebnykh zavedenii Ukrainskoi SSR. Kiev, Gos. med. izd-vo USSR, 1956. 366 p. (MLRA 10:5)

1. Ukraine. Ministerstvo zdravookhraneniya.
(PHARMACY)

SAVITSKIY, I. V.

"Effect of Various Doses of Radioactive Phosphorus on Protein Metabolism," by Prof I. V. Savitskiy and A. F. Leshchinskiy, Chair of Biochemistry (head, Prof I. V. Savitskiy), Odessa Pharmaceutical Institute (director, Docent A. G. Trotsenko), Meditsinskaya Radiologiya, Vol 1, No 6, Nov/Dec 56, pp 82-90

Changes in the indices of nitrogen-protein metabolism of an organism subjected to the effect of tracer and therapeutic doses of P 32 were studied under conditions of repeated blood loss. The work was carried out on rabbits.

The data obtained showed that the so-called tracer quantities of P 32 under the above conditions can show a stimulatory effect on protein metabolism, whereas therapeutic doses may delay reparation. (U)

SUM. 1345

SAVITSKIY, I.V.; ADAMOVSKAYA, I.I.

Role of the nervous system in the mechanism of the action of anti-reticular cytotoxic serum on cutaneous and vascular absorption capacity. Fiziol.zhur. (Ukr.) 2 no.3:115-122 My-Je '56. (MLRA 9:10)

1. Institut yeksperimental'noi biologii i patologii imeni akademika O.O.Bogomol'tsya i Odes'kiy farmatsevtichniyinstitut
(SERUM) (NERVOUS SYSTEM)
(SKIN) (BLOOD VESSELS)

SAVITSKIY, I.V.

Changes in the content of amino acids in the blood as a result of narcotic sleep and their distribution between the plasma and the formed elements of the blood. I. V. Savits'kii (Pharm. Inst., Odessa). *Ukrain. Biokhim. Zhur.* 28, 30–6(1956)(Russian summary).—Expts. were performed with rabbits, and barbamil (I) and barbital (II) were the narcotics administered. The effect of blood letting on the state of the central nervous system and on the reflex activity of the organism as related to the changes in the content and distribution of amino acids was also studied. It was shown that blood letting occasions an accumulation of amino acids in the blood, the erythrocytes being the basic seat of such accumulation. A light intermittent I sleep lowered the amino acid content of the plasma and caused their accumulation in the erythrocytes. Complete (uninterrupted) I or II narcosis weakened the capacity of the erythrocytes to bind amino acids and lowered the accumulation of the latter in the plasma. On the basis of the biochemical shifts noted it is concluded that I sleep is closer to normal physiological sleep than is II sleep. II or combined II and I sleep bring about more profound shifts in the accumulation and distribution of amino acids in the blood and worsen the general condition of the exptl. animals. B. S. Levine

USSR/General Problems of Pathology - Cytotoxins U-1

Abs Jour : Ref Zhur - Biol., No. 18, 1958, 84776

Author : ~~Savitskiy, I.V.~~
Inst : No institute is given
Title : The Action of A. A. Bogomolets Serum

Orig Pub : In the collection: Nekotoryye voprosy farmatsii, Kiev, Gosmedizdat Ukrainian SSR, 1956, 306-315

Abstract : The author studied the action of antireticular cytotoxic serum on the organism of rabbits as dependent upon the state of their nervous system. The animals were subjected to phlebotomy (removal of 0.4 percent of the body weight at a single time, or of two percent in five bleedings over a period of 21 days), poisoning with strychnine, or immersion barbamyl-induced sleep. These influences altered the character of the effects of ACS on protein metabolism, which was reflected in the distribution of amino acids in the plasma and erythrocytes. - O. A. Chaykina

Card 1/1

SAVITSKIY, I.V., dotsent

Analeptics in the treatment of loss of blood. Vrach.delo no.6: 589-591 Je '57. (MLRA 10:8)

1. Kafedra biokhimii Odesskogo farmatsevticheskogo instituta
(HEMORRHAGE) (ANALEPTICS)

USSR/Human and Animal Physiology Metabolism.

Abs Jour: Ref Zhur-Biol., No 8, 1958, 36113

Author : Kavitski, I.V.
Inst :
Title : The Effect of the Nervous System on Protein Metabolism.

Orig Pub: Ukr. biokhim zh. 1957, 29, No 2, 199-205.

Abstract: The content of aminoacids increases in the blood of rabbits, rendered anemic. Repeated injection of 0.1-0.2 mg/kg of strychnine reversed this effect . In smaller doses strychnine produced a more marked effect

Card : 1/1

SAVITSKIY, I.V. [SAVYTS'KYI, I.V.], TROSHCH, V.S.

Incorporation of radiomethionine in proteins of individual organs and tissues depending on the time of introduction [with summary in English]. Ukr.biokhim.zhur. 30 no.2:220-229 '58 (MIRA 11:6)

1. Odes'ka naukovo-doslidna sanitarno-khimichna laboratoriya.
(METHIONINE)

USSR/Human and Animal Physiology - (Normal and Pathological) T
Metabolism. Vitamins.

Abs Jour : Ref Zhur Biol., No 6, 1959, 26311

Author : Savitskiy, I.V.
Inst :
Title : Distribution of Radioactive Vitamin B_1 in the Organs and Tissues of Animals Under Conditions of Medicinal Sleep of Varying Depth.

Orig Pub : Fiziol. zh., 1958, 4, No 1, 121-130

Abstract : Distribution in the tissues and organs of thiamine -S^{35} (I) introduced subcutaneously or into the stomach was studied in rabbits under the conditions of shallow (40-50 mg/kg barbanyl) and deep medicinal sleep (100-120 mg/kg barbanyl). 3 hours after I introduction, the greatest content of S^{35} was discovered in the liver, and then in decreasing order in kidneys, mucosa and muscles of small and large intestines, bone marrow of sternum,

Card 1/2

SAVITSKIY, I.V., VASYUTINSKAYA, Ye.M.

Effect of aniline on certain indicators of protein metabolism [with summary in English]. Vop.med.khim. 4 no.5:351-358 S-O '58 (MIRA 11:11)

1. Nauchno-issledovatel'skaya sanitarno-khimicheskaya laboratoriya Ministerstvo zdravookhraneniya Ukrainskoy SSR, Odessa.

(BLOOD PROTEINS, effect of drugs on, aniline (Rus))
(ANILINE DYES, effects, on blood proteins (Rus))

TROTSENKO, A.G., otv.red.; PORTNOV, A.I., prof., red.; GORBOV, T.P., red.; YEVDOKIMOV, D.Ya., red.; KNIZHKO, P.O., red.; KORCHINSKIY, N.O., red.; LESHCHINSKIY, A.F., red.; LYASHENKO, S.S., red.; ROZENBERG, M.A., prof., red.; SAVITSKIY, I.V., prof., red.; SHELUD'KO, V.M., red.

[Research in the field of pharmacy] Issledovaniia v oblasti farmatsii. Pod obshchei red. A.I.Portnova. Odessa, M-vo zhdavookhraneniia USSR, 1959. 314 p. (MIRA 13:6)

1. Zaporozhskiy gosudarstvennyy farmatsevticheskiy institut. 2. Kafedra organicheskoy khimii Odesskogo gosudarstvennogo farmatsevticheskogo instituta (for Trotsenko). 3. Kafedra farmatsevticheskoy khimii Odesskogo gosudarstvennogo farmatsevticheskogo instituta (for Portnov). 4. Kafedra neorganicheskoy i sudebnoy khimii Odesskogo gos.farmatsevt. instituta (for Yevdokimov). 5. Kafedra analiticheskoy khimii Odesskogo gos.farmatsevt.instituta (for Knizhko). Kafedra marksizma-leninizma i organizatsiya farmdela Odesskogo gos.farmatsevt.instituta (for Korchinskiy). 6. Kafedra biokhimii Odesskogo gos.farmatsevt.instituta (for Leshchinskiy). 7. Kafedra farmakognozii i tekhnologii lekarstvennykh form i galenovykh preparatov Odesskogo gos.farmatsevt.instituta (for Lyashenko). 8. Zaveduyushchiy kafedroy fiziologii i farmakologii Odesskogo gos.farmatsevt.instituta (for Rozenberg). 9. Zaveduyushchiy kafedroy biokhimii Odesskogo gos.farmatsevt.instituta (for Savitskiy). 10. Kafedra farmakognozii i botaniki Odesskogo gosudarstvennogo farmatsevticheskogo instituta (for Shelud'ko).

(PHARMACY)

SAVITSKIY, I.V.; ADAMOVSKAYA, E.I. (Odessa)

Role of the nervous system in the mechanism of cancerolytic reaction. Pat.fiziol. i eksp.terap. 3 no.2:68 Mr-Ap '59. (MIRA 12:6)

1. Iz nauchno-issledovatel'skoy laboratorii Ministerstva zdravookhraneniya Ukrainskoy SSR (zav. - prof.I.V.Savitskiy).

(ANALEPTICS, eff.
on cancerolytic properties of blood in exper. cancer and sleep ther. (Rus))
(SLEEP, eff.
on cancerolytic properties of blood in exper. cancer (Rus))
(NEOPLASMS, exper.
eff. of analeptics & sleep ther. on cancerolytic properties of blood (Rus))

SAVITSKIY, I.V. [Savyts'kyi, I.V.]

Certain features of the effect of radioactive phosphorus (P^{32}) on the amount of nitrogenous substances in blood. Ukr.biokhim.zhur. 31 no.4: 550-561 '59. (MIRA 13:1)

1. Department of the Biochemistry of the Odessa Pharmaceutic Institute.
(PHYSPHORUS--ISOTOPES) (BLOOD PROTEINS)

KRINITSKIY, Aleksey Fedorovich; SAVITSKIY, I.V., red.; BYKOV, N.M., tekhn. red.

[Clinical and biochemical investigations for doctors] Vrachebnye kliniko-biokhimicheskie issledovaniia. Kiev, Gos. med. izd-vo USSR, 1960. 136 p. (MIRA 14:7)

(MEDICINE, CLINICAL)

SAVITSKIY, I.V. [Savyts'kyi, I.V.]; VASYUTINSKAYA, Ye.M. [Vasiutyns'ka, IE.M.]

Studying certain aspects of protein metabolism during aniline intoxication and tissue therapy. Fiziol.zhur. 6 no.1:101-107 Ja-F '60. (MIRA 13:5)

1. Odesskaya nauchno-issledovatel'skaya sanitarno-khimicheskaya laboratoriya.
(PROTEIN METABOLISM) (TISSUE EXTRACTS)
(ANILINE--PHYSIOLOGICAL EFFECT)

SAVITSKIY, I.V.

Changes in protein metabolism in animals after the administration of radioactive phosphorus. Med.rad. 5 no.2:50-54 F '60.
(MIRA 13:12)

(PHOSPHORUS--ISOTOPES) (BLOOD PROTEINS)

SAVITSKIY, I. V., (USSR)

"Biochemical Changes in Animals under the Simultaneous Influence of Penetrating Radiation and Chemical Compounds."

Report presented at the 5th Int'l. Biochemistry Congress, Moscow, 10-16 Aug 1961.

SAVITSKIY, I.V. [Savyts'kyi, I.V.]

Effect of radiophosphorus on the concentration of proteins, residual nitrogen, and urea in the blood under conditions of medicamentous sleep. Ukr. biokhim. zhur. 33 no.1:22-31 '61. (MIRA 14:3)

1. Department of Biochemistry of the Odessa Pharmaceutical Institute.
(PHOSPHORUS--ISOTOPES)
(BLOOD--ANALYSIS AND CHEMISTRY) (SLEEP)

SAVITSKIY, I.V.; ROZANOV, A.Ya.; POLYAKOVA, L.Ye.

Effect of roentgen irradiation on phosphorylation of thiamine. Vop. med. khim. 8 no.6:592-598 N-D '62. (MIRA 17:5)

1. Kafedra biokhimii Odesskogo gosudarstvennogo meditsinskogo instituta imeni N.I. Pirogova.

L 19786-65 Pb-4 . SSD/AFWL/AMD

ACCESSION NR: AR4045761 S/0299/64/000/013/M016/M016

SOURCE: Ref. zh. Biologiya. Svodnyy tom, Abs. 13M98 14 B

AUTHOR: Savitskiy, I. V.; Borisova, A. S.; Vasyutinskaya, Ye. M.; Savitskiy, V. I.

TITLE: Certain metabolism link changes in the recipient's organism after homotransplantation of skin flaps

CITED SOURCE: Sb. 3 Vses. konferentsiya po peresadke tkaney i organov, 1963. Yerevan, 1963, 438-439

TOPIC TAGS: metabolism, metabolism link, homotransplantation, transplantation, skin, rabbit, dog, preservation

TRANSLATION: Metabolism changes were investigated in rabbits and dogs with transplantation of unchanged skin and skin preserved by chilling according to V. P. Filatov's method. Investigations were conducted for 30 to 45 days, and in some cases longer. Protein and carbohydrate metabolism, nucleic acid metabolism, activity of enzyme systems, general condition of animals, and certain indices of vitamin

Card 1/2

L 19786-65
ACCESSION NR: AR4045761

metabolism were investigated. In the first days following transplantation, the level of serum proteins was reduced due to albumin and the globulin (gamma globulin) level increased. At later stages the globulin level decreased, particularly the alpha- and beta-fractions, and the concentration of residual nitrogen in the blood was reduced (due to urea and amino acids of the blood serum). The level of amino acids increased in erythrocytes. Glycogen breakdown and carbohydrate oxidation increased. Enzyme activity rose and recovery of vitamins B and C increased. All these changes took place with transplantation of both unchanged skin flaps and preserved skin flaps. The authors think that transplantation exerts a general stimulating effect on the recipient's organism.

SUB CODE: LS ENCL: 00

Card 2/2

SAVITSKIY, I. V.

"Narodnoye prikladnoye iskusstvo karakalpakov."

report submitted for 7th Intl Cong, Anthropological & Ethnological Sciences, Moscow, 3-10 Aug 64.

SAVITSKIY, I.V. [Savyts'kyi, I.V.]; ZELINSKIY, V.G. [Zelinsk'kyi, V.H.]

Inclusion of radiomethionine into serum protein fractions under the effect of X rays and thiophosphamide. Ukr. biokhim. zhur. 36 no.1:14-21 '64. (MIRA 17:12)

1. Department of Biochemistry, Odessa Medical Institute.

[illegible]KIY, I.V.; TOTSKIY, V.N.

Effect of emhitol and sarcolysine on the content of readily hydrolysable phosphate of ATP and ADP in the tissues and organs of rats. Vop. med. khim. 11 no.4:28-34 Jl-Ag '65.

(MIRA 18:8)

1. Kafedra biokhimii Odesskogo meditsinskogo instituta imeni N.I. Pirogova.

SAVITSKIY, I.V. [Savyts'kyi, I.V.]; [illegible], I.V. [Zarets'ka, I.V.]; [illegible], A.P. [Alyenko, A.P.]; ZHAPRÁK, L.M.

Change in proteins and proteolytic activity of the blood in the process of adapting the organism of seamen to the conditions of Antarctic sailing. Ukr. biokhim. zhur. 37 no.4:501-509 '65. (MIRA 18:9)

1. Kafedra biokhimii Odesskogo politekhnicheskogo instituta i Sanitarno-epidemiologicheskaya stantsiya porta Odessa.

SAVYTSKIY, I.V.

S/185/60/005/003/015/020
D274/D303

AUTHORS: Pashkovs'kyy, M.V., Lutsiv, R.V. and Savyts'kyy, I.V.

TITLE: On obtaining high-purity sulfur

PERIODICAL: Ukrayins'kyy fizychnyy zhurnal, v. 5, no. 3, 1960, 418-420

TEXT: Commercial sulfur was purified by vacuum refining with subsequent zone melting. The purified sulfur was needed for growing HgS-crystals. The method of vacuum refining was chosen owing to the fact that the original material contained Al, Ca, Mg, Mn, Cu, Fe, As, Si and organic admixtures. The commercial sulfur was dried at a temperature of approximately 100°C in a strong air current; then it was closed in a distillation chamber at a temperature of 2 - 3 degrees below melting point, for 5 - 6 hours, under the continuous action of a fore-vacuum pump. The vacuum distillation was carried out at various temperatures; it was found that excessive temperatures have an adverse effect on the quality of the sulfur;

Card 1/3

On obtaining high-purity sulfur

therefore, the distillation was carried out at a few degrees above melting point. 150 - 200 g sulfur were kept in one chamber; the first distillation lasted for up to three hours. The following distillations lasted longer. Such short duration of the process and the suitable temperatures had the result that most of the impurities were deposited at the bottom of the chamber. The sulfur crystallized on the walls of a test tube; after 5 vacuum distillations, the central part of the crystallized sulfur film could be used for further purification by zone melting. The zone melting was carried out in glass containers, at 10^{-3} mm Hg. Zones of 15 - 20 mm length were formed. The sulfur obtained by the above method was compared (qualitatively), by means of spectral analysis, with "special-purity" sulfur of type VTU, no. 9-56; it was found that with respect to several admixtures (Al, Mg, Cu), the obtained sulfur was purer than that of type VTU. The above method permits uninterrupted purification of sulfur, as well as in sufficient quantities. There are 2 figures and 3 references: 1 Soviet-bloc and 2 non-Soviet-bloc (which include a translation into Russian). The reference

On obtaining high-purity sulfur

S/185/60/005/003/015/020
D274/D303

to the English-language publication reads as follows: W.E. Medcalf and R.H. Fahrig, J. Electrochem. Soc., 105, no. 12, 719-723, 1958.

ASSOCIATION: L'vivs'kyy derzhavnyy universytet im. Ivana Franka (L'vov State University im. Ivan Franko)

SUBMITTED: January 6, 1960

Card 3/3

PASHKOVSKIY, M.V.; RYBALKA, V.V.; SAVITSKIY, I.V.

Conductivity of mercury sulfide single crystals. Fiz.tver.tela 4 no.7:1970-1972 Jl '62. (MIRA 16:6)

1. L'vovskiy gosudarstvennyy universitet imeni Iv.Franko.
(Mercury sulfide crystals) (Photoconductivity)

L 19846-65 EWT(m)/EWP(t)/EWP(b) IJP(c) JD

ACCESSION NR: AR4048150 S/0081/64/000/011/B044/B044

SOURCE: Ref. zh. Khimiya, Abs. 11B307

AUTHOR: Pashkovskiy, M.V., Savitskiy, I.V., Ry*balka, V.V.

TITLE: Some of the physical properties of crystals of mercuric sulfide

CITED SOURCE: Izv. Leningr. elektrotekhn. in-ta, vy*p. 51, 1963, 167

TOPIC TAGS: mercuric sulfide, single crystal, crystal photoconductivity, crystal photosensitivity, crystal electrical conductivity

TRANSLATION: Single crystals of the red form of HgS were obtained by sublimation in evacuated, sealed, quartz ampoules at an appropriate temperature gradient or in an atmosphere of N_2. These crystals were then used to study the effect of temperature on the electrical conductivity, the spectral distribution of the photosensitivity and the kinetics of photoconductivity. HgS was found to be a substance which is sensitive to radiation.
L. Yerman

SUB CODE: IC, SS ENCL: 00

Card 1/1

L 45737-65 EPA(s)-2/EWT(l)/EWT(m)/EWP(b)/EWP(t) Pt-7 IJP(c) GG/JD/JG/GS

ACCESSION NR: AT5009633 UR/0000/64/000/000/0115/0118

AUTHOR: Lymarenko, L. M. (Limarenko, L. M.); Pashkovs'kyy, M. V. (Pashkovskiy, M. V.); Rybalka, V. V.; Savyts'kyy, I. V. (Savitskiy, I. V.)

TITLE: Laws governing stationary photoconductivity in mercury sulfide with impurities

SOURCE: Lvov. Universytet. Pytannya fizyky dverdoho tila (Problems ins solid state physics). Lvov, Vyd-vo L'viv. univ., 1964, 115-118

TOPIC TAGS: mercury sulfide, photoconductivity, stationary photoconductivity, impurity effect, temperature dependence

ABSTRACT: This is a continuation of earlier work by the authors (UFZh v. 6, 691, 1961; Sbornik referatu IV konference o monokrystalech v Turnove 1961, VUM, Turnov, 1962, 93; FTT v. 4, 1970, 1962), dealing with the growth of HgS crystals and their properties. This technology was used to grow a series of HgS crystals with impurities of I, Cd, Sb, Se, Te, P, Tl, Cu, Ag, Sn, and Mn, in amounts of 0.001--0.1% introduced into the charge prior to the analysis. The procedure for measuring the stationary characteristics of the photoconductivity of the samples is described

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L 45737-65
ACCESSION NR: AT5009633

briefly. An investigation of the temperature dependence of the photocurrent shows that for most samples the photocurrent increases exponentially with increasing temperature at temperatures above 250K and is either independent of the temperature or depends very little on it at lower temperatures. The dark resistance of HgS has a weak dependence on the type of impurity, and the impurity maximum of the photosensitivity has a postion that is independent of the type of impurity. The lux-ampere characteristics of the photocurrent is sublinear above 250K, with exponent 0.5--0.8 and linear below 250K. The weak dependence of the conductivity on the impurities is attributed to the compensating action of the cation vacancies. The impurity maximum of the spectral dependence of the photocurrent is attributed to excitation of electrons captured by these vacancies. The temperature and lux-ampere relationships are attributed to the influence of the filling of the adhesion centers on the rate of recombination of the free electrons. The results are interpreted in light of an earlier study of the dependence of the stationary photoconductivity on various factors (V. E. Lashkarev, FTT v. 5, 417, 1963). Orig. art. has: 2 figures, 7 formulas, and 1 table.

ASSOCIATION: None

SUBMITTED: 22Jun64 ENCL: 00 SUB CODE: OP, SS

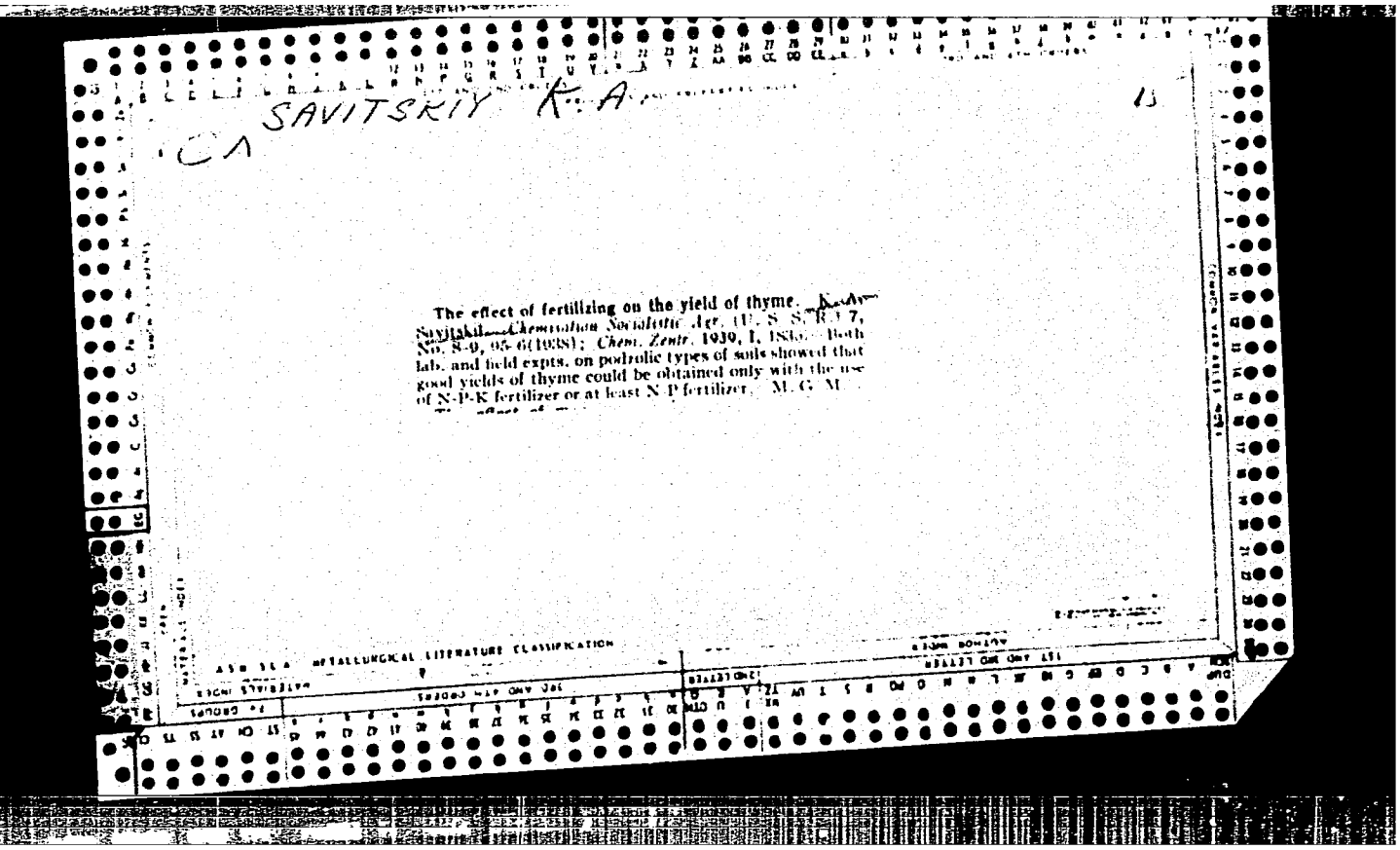
NR REF SOV: 004 OTHER: 001

Card 2/2

[illegible] [illegible], SAVITSKIY, I.V.; [illegible], G.I.

The presence of impurities in the crystal lattice of mercury sulfide. Zhur. strukt. khim. 6 no.1:166-168 Ja-F '65. (MIRA 18:12)

1. L'vovskiy gosudarstvennyy universitet imeni Iv. Franko. Submitted May 21, 1964.



SAVITSKIY, KONSTANTIN AMOSOVICH

BUTSEROGA, Mikhail Martynovich; SAVITSKIY, Konstantin Amosovich

[Growing millet in the forest-steppe zone] Agrotekhnika prosa v lesostepi. Moskva, Gos.izd-vo selkhoz.lit-ry, 1956. 55 p.
(Millet) (MLRA 10:8)

SAVITSKIY, K. A.

USSR/Cultivable Plants - Grains.

Abs Jour : Ref Zhur - Biol., No 3, 1958, 10531 R.

Author : Lebedev, V.N., Savitskiy, K.A., Yakhovskiy, I.V.
Inst : -
Title : Groats Crops.

Orig Pub : Kiiv, Derzhsil'gospvidav URSR, 1956. 299 pp., illus, 8 rub 50 kop.

Abstract : No abstract.

Card 1/1

USSR/Cultivated Plants - Grains. M-2

Abs Jour : Ref Zhur - Biol., No 7, 1958, 29757

Author : Savitskiy, K.A.

Inst : The Ukrainian Scientific Research Institute for Agriculture.

Title : The Chief Methods of Raising Buckwheat Productivity .

Orig Pub : V sb.: Vopr. razvitiya s.kh. Poles'ya. Kiyev, AN SSSR, 1956 (1957), 65-72.

Abstract : Data on the experiments of the Ukrainian Scientific Research Institute for Agriculture on Applying fertilizer to the rows for buckwheat and recommendations of the institute on buckwheat agrotechnics (the application of granulated superphosphate together with the seeds, the selection of big, heavy-weight seeds by means of sorting machines and a ten percent solution of ordinary salt).

Card 1/1

KIYAK, Grigoriy Stepanovich [Kyiak, H.S.], prof.; SAVITSKIY, K.A. [Savyts'kyi, K.A.], kand.sel'skokhoz.nauk, glavnyy red.; LUCHKO, O.S., otv. za vypusk; GURENKO, V.A. [Hurenko, V.A.], red.

[Experience in the cultivation of corn in the western regions of the Ukrainian S.S.R.] Dosvid vyroshchuvannia kukurudzy; v zakhidnykh raionakh URSR. Kyiv, 1959. 31 p. (Tovarystvo dlia poshyrennia politychnykh i naukovykh znan' Ukrains'koi RSR. Ser.6, no.19). (MIRA 13:1)

1. Chlen-korrespondent AN USSR (for Kiyak). 2. Referent Tovaristva dlya poshirennya politichnikh i naukovikh znan' Ukrains'koi RSR (for Luchko).
(Ukraine, Western--Corn (Maize))

SAVITSKIY, K.A.[Savyts'kyi, K.A.], kand.sel'skokhoz.nauk

Dates for sowing buckwheat in the Ukrainian Polesye and forest-steppe. Nauch. trudy UASHN 9:137-145 '59. (MIRA 14:3)
(Ukraine--Buckwheat)

SAVITSKIY, K.A., kand.sel'skokhozyaystvennykh nauk

Possibilities for increasing the production of buckwheat in the Ukraine. Zemledelie 8 no.10:40-45 O '60. (MIRA 13:10)

1. Ukrainskiy nauchno-issledovatel'skiy institut zemledeliya.
(Ukraine--Buckwheat)

SAVITSKIY, Konstantin Amosovich [Savyts'kyi, K.A.], kand.sel'skokhoz.nauk; BUNTUSH, T.P., kand.sel'skokhoz.nauk, glavnyy red.; FAL'KO, Yu.G. [Fal'ko, IU.H.], red.

[Practices of winter wheat cultivation in the Ukraine] Dosvid vyroshchuvannia ozymoi pshenytsi na Ukraini. Kyiv, 1960. 39 p. (Tovarystvo dlia poshyrennia politychnykh i naukovykh znan' Ukrains'koi RSR. Ser.6, no.20)

(MIRA 14:2)

(Ukraine--Wheat)

SAVITSKIY, Konstantin Amosovich[Savyts'kyi, K.A.], kand. sel'khoz. nauk; KULESHOV, M.M., akademik, otv. red.; KIREYEV, F.M. [Kirieiev, F.M.], red.; MIL'KIN, Yu.A., tekhn. red.

[Growing buckwheat in the Ukraine]Kul'tura hrechky na Ukraini. Kyiv, Derzhsil'hospvydav URSR, 1963. 202 p. (MIRA 16:4)
(Ukraine--Buckwheat)

KOLOBOV, Aleksey Nikolayevich [Kolobov, O.M.], doktor sel'khoz. nauk; SAVITSKIY, K.A. [Savyts'kyi, K.A.], kand. sel'khoz. nauk, otv. red.; GURENKO, V.A. [Hurenko, V.A.], red.; MATVIICHUK, O.A., tekhn. red.

[For 50 centners of shelled corn per hectare] Za 50 tsentneriv zerna kukurudzy z hektara. Kyiv, 1961. 47 p. (Tovarystvo dlia poshyrennia politychnykh i naukovykh znan' Ukrains'koi RSR. Ser.5, no.8) (MIRA 14:9)

(Ukraine—Corn (Maize))

KAVUN, Vasiliy Mikhaylovich; GAVRITSKIY, Konstantin Afanasyevich; LUK'YANYUK, V.I., nauchn. red.; SHALYT, N.A., red.

[Cultivation practices for principal farm crops] Agrotekhnika vazhneishikh sel'skokhoziaistvennykh kul'tur. Moskva, Vysshaia shkola, 1964. 234 p. (MIRA 17:9)

L 14417-63 EWP(q)/EWT(m)/BDS AFFTC/ASD WH/JD/JG

ACCESSION NR: AP3004357 S/0078/63/008/008/1998/2000

AUTHOR: Markova, I. A.; Terekhova, V. F.; Savitskiy, K. M.

TITLE: Phase diagram of the praseodymium-neodymium system

SOURCE: Zhurnal neorganicheskoy khimii, v. 8, no. 8, 1963, 1998-2000

TOPIC TAGS: praseodymium-neodymium phase diagram, praseodymium-neodymium system, α-praseodymium, β-praseodymium, α-neodymium, β-neodymium, praseodymium-neodymium solubility, praseodymium-neodymium solid solution

ABSTRACT: The phase diagram of the praseodymium-neodymium system, based on the study of Pr-Nd alloys, is given in Fig. 1 of Enclosure. The alloys were melted from 97% pure Pr and 98% pure Nd in an arc furnace in a helium atmosphere. The impurities were other rare-earth metals and Cu, Fe, and Ca. The cast alloys were annealed at 600C for 20 hr. Thermal analysis, microscopic examination, x-ray diffraction patterns, and hardness tests showed that both modifications of Pr and Nd—the hexagonal low-temperature α-modification and the cubic high-temperature β-modification—form continuous series of solid solutions.

Card 1/2

SAVITSKIY, K. V.

Savitskiy, K. V. "The temperature of surfaces in grinding in relation to the extent of normal load and grinding speed," Trudy Sib. fiz.-tekhn. in-ta, Issue 26, 1948, p. 3-12, - Bibliog: 5 items.

SO: U-5241, 17 December 1953, (Letopis 'Zhurnal 'nykh Statey, No. 2 , 1949)

SAVITSKIY, K. V.

Savitskiy, K. V. "The problem of measuring the temperature of metal grinding," Trudy Sib. fiz.-tekhn. in-ta, Issue 26, 1949, p. 13-24, - Biblion: 15 items

SO: U-5241, 17 December 1953, (Letopis 'Zhurnal 'nykh Statey, No. 26, 1949)

1. SAVITSKIY, K. V.
2. USSR (600)
4. Machine Tools
7. Method of determining the hardness of tools. Stan. i instr. 24, No. 2, 1953.

9. Monthly List of Russian Accessions, Library of Congress, May 1953. Unclassified.

SAVITSKIY, K.V.

6613* Problem of the Effect of Friction on the Changes in the Stressed State of Surface Layers of Metals During Plastic Compression. K voprosu o vliianii trenila na izmenenie napriazhennogo sostoianiia poverkhnostnykh sloev metallov v protsesse plasticheskogo szhatiia. (Russian.) K. V. Savitskii. *Fizika Metallov i Metallovedenie*, v. 1, no. 2, 1955, p. 239-245.

Data on effects of lubrication on numerical values of stresses during the plastic compression of Cu. Relation between contact stresses and differences in the geometrical shape of the test pieces. Possibility of determining effectiveness of lubricants, under plastic compression conditions, by the magnitude of difference in contact and mean true stresses. Graphs, table, photograph. 4 ref.

LFH

Siberian Phys-Tech. Inst., Tomsk State U. im. Kuybyshev

SAVITSKIY, K.V.

90/1112 539.374 :539.61

Concerning the Nature of Plastic Deformation of Friction Surfaces

Dokl. Akad. Nauk 103(4), 605-608 1955

62

K.V. Savitsky,
M.P. Zagrebennikova U.S.S.R.

Experiments were made with Cu and Al to determine the changes in micro-hardness of friction surfaces and butt ends of reduced specimen (degree of deformation up to 75%) caused by preliminary deformation and annealing temperature. Friction speed was maintained at 39 m/min. and pressure at 2.8 Kg/sq.mm. Under the conditions of the experiments friction resulted in the deformation of the surface layer which led to a considerable hardening. This is explained by a special mechanism of plastic flow.

It has also been observed that surface changes induced by friction are more stable, as regards temperature, than those caused by either static or dynamic reduction. The behaviour of the temperature coefficient of regeneration indicates that, apparently, in the process of friction both stable and unstable deformation is accumulated. (Bibl.3)

1

SOV/137-57-6-10855

Translation from: Referativnyy zhurnal, Metallurgiya, 1957, Nr 6, p 207 (USSR)

AUTHOR: Savitskiy, K.V.

TITLE: Influence of Speed and Normal Load on Changes in the Mechanical Properties of Surface Layers of Rubbing Surfaces (Vliyaniye skorosti i normal'noy nagruzki na izmeneniye mekhanicheskikh svoystv poverkhnostnykh sloyev trushchikhsya tel)

PERIODICAL: V sb. Povysheniye iznosostoykosti i sroka sluzhby mashin. Kiyev-Moscow, Mashgiz, 1956, pp 42-48

ABSTRACT: An investigation is made of the effect of speed and normal load during friction (F) on changes in the properties of surface layers of specimens (S) of Cu and Al. A quantitative evaluation of changes in properties is made on the basis of change in the microhardness (M) of surfaces of F. A parallel X-ray study is made of change in the stress distribution of F surfaces relative to loading parameters. F testing is conducted in a special apparatus comprising a rotating shaft 148 mm in diameter and a brake shoe. The F speed is varied between 28 and 712 m/min, and the value of the normal stresses from 14.5 to 1000 kg/cm^2. The experiments are run with machine-

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Influence of Speed and Normal Load on Changes (cont.)

oil boundary lubrication at a constant rate of delivery. It is established that, for Al and Cu, the F-surface M increases substantially with rise in F pressure and speed. The increase in M in the interval of low pressures and F velocities is considerably more intensive and noticeable with Cu than with Al. It is observed that the absolute value of the rise in the M of F surfaces due to increase in pressure significantly exceeds the rise in M due to an increase in sliding speed. X-ray investigations show the properties of the surface layers of rubbing bodies to be determined, upon changes in F pressure and speed, by the intensity of accumulation of excess distortions in the lattice and the degree to which they are stable under the given experimental conditions. It is established that an increase in the M of F surfaces is due to increase in the deformation distortions of types II and III. Al S are employed to investigate changes in the depth of the work-hardened layer and in the nature of stress distributions in the depth of the S during the F process. It is shown that as pressure and speed of F rise, the depth of the work-hardened layer first rises to a maximum whereupon it remains virtually unchanged. The curves for distribution of M through the depth of the work-hardened layer present a sharply-defined maximum at a depth of 12-25 microns.

L.G.

Card 2/2

SOV/137-57-6-10854

Translation from: Referativnyy zhurnal, Metallurgiya, 1957, Nr 6, p 207 (USSR)

AUTHOR: Savitskiy, K.V.

TITLE: The Nature of Plastic Deformation of Friction Surfaces (Priroda plasticheskoy deformatsii poverkhnostey treniya)

PERIODICAL: V sb.: Povysheniye iznosostoykosti i sroka sluzhby mashin. Kiyev-Moscow, Mashgiz, 1956, pp 49-57

ABSTRACT: An investigation is made of the microhardness (M) of friction (F) surfaces and of end surfaces of samples (S) subject to compression relative to the initial level of work hardening and the temperature of anneal. The experiments are run on cylindrical S 8 mm in diameter and 13 mm high, consisting of polycrystalline Cu and Al. The influence of the level of preliminary strain upon the M of F surfaces is investigated under conditions of static reduction of Cu specimens to various levels of work-hardening (10-75%). First the S are annealed in vacuum at 600°C. It is established that, under these conditions, the M of the surface layers is not dependent upon the prior work-hardening of the material. Under these conditions, the values of the M of the surfaces after F treatment are numerically equal to or exceed the M of S reduced to very high levels of deformation. The conclusion is

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The Nature of Plastic Deformation of Friction Surfaces

drawn that under conditions of F, the surface layers of the S undergo work-hardening to some limit, subsequent to which the M, the force of F, and the coefficient of F cease to be dependent upon the degree of prior work-hardening. It is demonstrated by experiment that scratch hardness of surfaces subjected to F, which is not dependent upon the degree of work hardening, is also higher than for surfaces not subjected to F. The hypothesis is advanced that variation in the properties of surface layers in the F process is conditioned by a special mechanism of plastic flow, in which, in addition to the formation of texture, change in grain size, and the development of processes of oxidation, disturbances in normal crystal structure occur that are qualitatively different than those in plastic compression or tension.

L.G.

SAVITSKIY, K. V.

"Study of the Distribution of Residual Deformations Under a Friction-X Surface" p. 107-114, in the book Research in the Physics of Solids, Moscow, Izd-vo AN SSSR, 1957. 277 p. Ed. Bol'shanina, M. A., Tomsk Universitet, Siberskiy fiziko-tekhnicheskiy institut.

Personalities: Kuznetsov, V. D., and Yarkina, G. S. Materials tested: sheet aluminum, steel 1, steel 5, and steel ShKh15, Rate of sliding 2.2.m/min. and load 2.5 kg/mm^2. There are 7 figures and 1 table, and 2 references, 1 of which is Soviet.

This collection of articles is meant for metallurgical physicists and for engineers of the metal-working industry. This book contains results of research in the field of failure and plastic deformation of materials, mainly of metals. Problems of cutting, abrasion, friction, and wear of solid materials (metals) are discussed.

SAVITSKIY, K. V. and SHVARTSMAN, Ya. V.

"Effect of Heterogeneous Hardening on Friction and Wear Characteristics of Alloys" p. 79-85, in book Research in the Physics of Solids, Moscow, Izd-vo AN SSSR, 1957. 277 p. Ed. Bol'shanina, M. A. Tomsk Universitet, Siberskiy fiziko-tekhnicheskiy institut.

Personalities: Matsin, E. A.; Khrushchov, M. M.; Kuritsyna, A. D.; Zagrebennikova, MP., and Bochvar, A. A. Tested materials: Al- Cu and Cu -P alloys and steel U 12. There are 4 tables, 1 figure, and 4 references, all Soviet.

This collection of articles is meant for metallurgical physicists and for engineers of the metal-working industyr. This book contains results of research in the field of failure and plastic deformation of materials, mainly of metals, Problems of cutting, abrasion, friction, and wear of solid materials. (metals) are discussed.

SOV/137-58-12-25181

Translation from: Referativnyy zhurnal. Metallurgiya, 1958, Nr 12, p 163 (USSR)

AUTHOR: Savitskiy, K. V.

TITLE: Investigation of Residual Deformations and Temperatures of Metals Under Friction (Issledovaniye ostatochnykh deformatsiy i teplovogo rezhima pri trenii metallicheskikh tel)

PERIODICAL: Dokl. 7-y Nauchn. konferentsii, posvyashch. 40-letiyu Velikoy Oktyabr'sk. sots. revolyutsii. Nr 2. Tomsk, Tomskiy un-t, 1957, p 44

ABSTRACT: A study was made of the extent of residual deformations under the friction (F) surface in relation to the sliding speed, pressure, length of F-exposure time, and of the effect of F conditions on the microhardness and temperature of the rubbing surfaces. By the quench-hardening technique the state of the surface layers of technically pure Cu under given F conditions was determined and the effect of F heat on the changes of the properties of rubbing surfaces was clarified. It was established that the nominal F area affects the temperature of the surface layers during continuous and intermittent pressure.

A. N.

Card 1/1

SOV/137 58-11-23413

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 11, p 224 (USSR)

AUTHOR: Savitskiy, K. V.

TITLE: On the Resistance to Deformation of Fusible Metals and Alloys Which Have Been Subjected to Preliminary Work Hardening (O soprotivlenii deformatsii predvaritel'no naklepannykh legkoplavkikh metallov i splavov)

PERIODICAL: Dokl. 7-y Nauchn. konferentsii, posvyashch. 40-letiyu Velikoy Oktyabr'sk. sots. revolyutsii. Nr 2. Tomsk, Tomskiy un-t, 1957, pp 60-61

ABSTRACT: The effect of preliminary work hardening on such properties as hardness and resistance to secondary deformation (D) was investigated on Pb and Sn specimens as well as on alloys having these metals as their principal constituent; the effects of intermediate annealing operations on resistance to secondary D were also studied. It is demonstrated that the secondary D of fusible metals and alloys which had been strained preliminarily to a considerable degree of residual D is, in a number of instances, accompanied by a decrease in hardness and a reduction in the magnitude of D stresses. The effect of the reduction of stresses is more apparent if the primary and the secondary D's are

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On the Resistance to Deformation of Fusible Metals and Alloys (cont.)

carried out with different systems of stress distribution. It is established that the process of friction of Pb, Sn, and certain of their bearing alloys against a polished steel surface is accompanied by a noticeable reduction in the initial values of microhardness of the fusible constituents. Annealing of severely strained fusible metals and alloys increases their hardness and their resistance to secondary D. V. N.

Card 2/2

SAVITSKIY, K. V.

126-3-19/34

AUTHORS: Savitskiy, K. V. and Geraskevich, Yu. P.

TITLE: Investigation of the stress state of surface layers of rubbing bodies during sliding in alternate directions. (Issledovaniye napryazhennogo sostoyaniya poverkhnostnykh sloyev trushchikhsya tel pri znakoperemennom skol'zhenii).

PERIODICAL: "Fizika Metallov i Metallovedeniye" (Physics of Metals and Metallurgy), 1957, Vol.4, No.3, pp. 519-526 (U.S.S.R.)

ABSTRACT: Analysis of literary data indicates that in a number of cases preceding deformation of opposite sign frequently leads to a decrease in the deformation work hardening of metals during subsequent deformations. Experimental results of Degtyarev, M. M. (4) and Vasil'ev, L.I. (11) indicate that a reduction of the deformation stresses of preliminarily deformed specimens depends on the degree of preliminary work hardening and on the speed of the subsequent deformation; the lower the degree of preliminary deformation and the speed of the subsequent deformation, the quicker will be the rearrangement of the field of distortions for a given stress state. If each type of deformation has its own characteristic field of distortion of the lattice differing from all the others by certain features, it is to be anticipated that a change in the character of the friction should lead to the formation of a new field of distortions

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Investigation of the stress state of surface layers of rubbing bodies during sliding in alternate directions.(Cont.)

and, consequently, to a change of the stress state of the external layers. It can, therefore, be assumed that in sliding in alternate directions, under otherwise equal conditions, the work hardening of the external layers should be smaller than if the relative movement of the rubbing surfaces precedes in one direction only. For verifying these assumptions friction tests were carried out with iron, copper, aluminium and duraluminium specimens subjected to sliding in one direction and sliding in alternate directions. The compositions of the specimens are given in a table, p.520; the results of measurement of the micro-hardness of the rubbing surfaces of the specimens for sliding in one direction and sliding in alternate directions are entered in a table, p.521. Figs. 1-3 give the micro-hardness as a function of the annealing temperature for iron, duraluminium and aluminium specimens subjected to unidirectional rubbing, to rubbing in alternate directions and for specimens which have been reduced by 60% by a static pressure. It is shown that sliding in alternate directions leads to a reduction of the deformation hardening but does not affect appreciably the temperature stability of the field of distortions as a whole.

126-3-19/34

Investigation of the stress state of surface layers of rubbing bodies during sliding in alternate directions.(Cont.)

The described test results indicate that a change in the direction of sliding of rubbing metallic bodies leads to an appreciable reduction of the work hardening of the external layers and to a decrease of their relative softening intensity. A change in the direction of the sliding does not lead to an additional accumulation of qualitatively different deformation caused lattice distortions.
There are 7 figures, 1 table and 15 references, 14 of which are Slavic.

SUBMITTED: February 15, 1956, after revision May 14, 1956.

ASSOCIATION: Siberian Physico-Technical Research Institute. (Sibirskiy Fiziko-Tekhnicheskiy Nauchno-Issledovatel'skiy Institut).

Card 3/3

AVAILABLE: Library of Congress

SAVITSKIY, K.V.

AUTHORS: Savitskiy, K. V. and Zagrebennikova, M.P. 126-1-17/40

TITLE: Influence of forced sliding at the faces on plastic compression of metals. (Vliyaniye prinuditel'nogo skol'zheniya v tortsakh na plasticheskoye szhatiye metallov).

PERIODICAL: Fizika Metallov i Metallovedeniye, 1957, Vol.5, No.1, pp. 113-119 (USSR)

ABSTRACT: The influence is investigated of forced rotation of one of the supporting plates of a press on the deformation of metals during plastic compression. The curves obtained by the author are compared with the curves of the real compression stresses obtained in the case of lubrication on one side and in the case of cleaning of the supporting surfaces. Furthermore, the influence is investigated of the speed of sliding in the case of unidirectional and alternating rotation of the plate. It was established by Panin, V. Ye. (Ref.1) that intensification of the role of friction during compression leads not only to an increase of the deformation stresses and of the deformation work but also to the occurrence of additional distortions in the lattice of the deformed metal which brings about an increase of the latent deformation energy. It was found

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Influence of forced sliding at the faces on plastic compression of metals.

that, under conditions of intensive friction, a reduction takes place of the temperature stability of the deformation distortions. During static compression of specimens, the speed of sliding of metal along the supporting plates of the press is relatively small and, therefore, other conditions being equal, the friction coefficient of the specimen along the supporting plate will approach the values of the friction coefficient for moving from standstill. According to Kragel'skiy, I. V. (Ref.2), the coefficient of friction in the case of movement from standstill depends on the duration of the static contact and, therefore, it can be anticipated that with increasing deformation speed the friction between the specimen and the supporting plates of the press will decrease and thereby the slowing down effect of the friction on the deformation of the metal at the contact surfaces will also be reduced. Such a decrease in the friction coefficient with increasing deformation speeds was indeed observed by Gubkin, S.I. and Orlov, N. M. (Ref.3) during swaging of duraluminium through conical dies at room temperature as well as at elevated temperatures using various lubricants. This

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indicates that the influence of the duration of the contact on the friction at the faces manifests itself also in presence of a lubricant. However, this effect is more pronounced for dry surfaces and elevated temperatures as can be seen from data published by Gubkin, S.I. and Orlov, N.M. (Ref.3). Thus, it could be anticipated that for a given degree of deformation a reduction of the contact time will in all cases result in a larger displacement of the metal along the supporting surfaces of the deforming tool. Therefore, in this paper the relations were studied which govern the plastic compression of metals under conditions of a moving contact at the face surface of a cylindrical specimen relative to the supporting plate of the press; in this case, the static friction between the support and the specimen is substituted by kinetic friction. In addition to the displacement of the metal specimen in the radial direction under the effect of normal forces, there will be a displacement caused by the friction forces and, therefore, the duration of the individual contacts will become considerably less and friction at the faces will

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no longer play the same role as in the case of a static contact. A test set-up was built by fitting a special attachment to a table drill which enabled applying compression forces of up to 270 kg and, simultaneously, to rotate the upper supporting plate (sketch, Fig.1). The experiments were made applying two sliding speeds, namely, 0.5 and 8 r.p.m. with lubrication at one side by means of pure vaseline oil using cylindrical specimens of commercial tin and lead of 6 mm dia. and a height of 10 mm. The experimental results obtained using a unilateral lubrication without forced sliding and with forced sliding were compared with results of compression of specimens in the case of carefully cleaned supporting surfaces (washing with benzene and alcohol followed by rubbing with activated carbon). The changes in the dimensions of the front surfaces of the specimens as a function of the deforming force under differing conditions are graphed in Figs.2 and 3; in Figs.4 and 5 the dependence of the contact stresses on the relative reduction and the real average stresses are graphed. The numerical values of the contact and the real stresses during compression of specimens with forced sliding in

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one direction and with alternating sliding are entered in a table, p.117. The results of the experiments have shown that plastic compression with forced sliding of the faces leads to a more uniform deformation requiring lower deformation stresses; this is attributed to the weakening of the blocking effect of the friction at the faces and a redistribution of the stresses as a result of the displacement of metal under the effect of forced sliding. Compression with sliding in alternating directions leads to a still higher reduction of the deformation stresses. These results are in good agreement with the data obtained earlier by G. D. Polosatkin. However, his explanation of the phenomena is different from that of the author of this paper.
There are 5 figures, 1 table and 5 references, all of which are Slavic.

SUBMITTED: April 23, 1956.
ASSOCIATION: Siberian Physico-Technical Scientific Research Institute. (Sibirskiy Fiziko-Tekhnicheskiy Nauchno-Issledovatel'skiy Institut).
AVAILABLE: Library of Congress.
Card 5/5

SAVITSKIY, K.V.

32-9-23/43

AUTHOR: Savitskiy, K.V., Kudryavtseva, L.A.

TITLE: Investigation of the Influence Exercised by Various Factors upon Strength by the Method of Scratching (Vliyaniye razlichnykh faktorov na tverdost' po metodu tsarapaniya)

PERIODICAL: Zavodskaya Laboratoriya, 1957, Vol. 23, Nr 9, pp.1104-1108 (USSR)

ABSTRACT: Here strength is investigated by the method of scratching by the modification of the outside temperature, consolidation as well as the temperature and velocity at, and with which scratches are caused. A nearly proportional relation between stress at the point and the square of the width of the scratch, which is exceeded only at very great stresses, is determined. It is shown that in the case of low stresses the strength determined by the method of scratching is insensitive to consolidation and grows with an increase of consolidation in the case of sufficiently strong stress. Therefore, the causing of deep scratches cannot even be used for an approximate evaluation of the true tearing resistance. The temperature during the experiment exercises essential influence upon the strength (which was determined according to the scratching method). This is the case not only at temperatures of real resting, but also at such temperatures as cause the reduction of plasticity at the cost of a

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Investigation of the Influence Exercised by Various Factors upon Strength by the Method of Scratching

modification of the state of the structure of the alloy. It is shown that the velocity of scratching leads to a decrease of the depth and width of the scratch. This influence is, however, greater in the case of scratching depth than in the case of scratching width. It is assumed that the reason for this is to be found in the modification of the geometry of the scratching cone because of its forming crusts. There are 4 figures, 2 tables, and 13 references, 10 of which are Slavic.

ASSOCIATION: Siberian Physical-Technical Scientific Research Institute (Sibirskiy fiziko-tekhnicheskiy nauchno-issledovatel'skiy institut)

AVAILABLE: Library of Congress

SAVITSKIY, K.V.

Wear resistance of metals and alloys subjected to friction against abrasive surfaces. Izv. vys. ucheb. zav.; fiz. no.2:51-57 '58.
(MIRA 11:6)

1.Sibirskiy fiziko-tekhnicheskiy institut pri Tomskom gosuniversitete im. V.V. Kuybysheva.
(Metals--Testing) (Mechanical wear)

SAVITSKIY, K.V.; ZAGREBENNIKOVA, M.P.; ILYUSHCHENKOV, M.A.

Thermal stability at various friction conditions of cold hardening of surface layers of metal. Izv. vys. ucheb. zav.; fiz. no.3: 155-157 '58. (MIRA 11:9)

1. Sibirskiy fiziko-tekhnicheskiy institut pri Tomskom gosuniversitete imeni V.V. Kuybysheva.
(Steel--Hardening)

81518

SOV/137-59-5-10837

18.8000

Translation from: Referativnyy zhurnal, Metallurgiya, 1959, Nr 5, p 198 (USSR)

AUTHORS: Savitskiy, K.V., Shvartsman, Ya.V.

TITLE: The Effect of the Structural Arrangement of Solid Components in Cu-P and Al-Cu Alloys on the Intensity of Heat Generation During a Friction Process

PERIODICAL: Sb. nauchn. tr. Tomskiy inzh.-stroit. in-t, 1958, Vol 4, pp 97-106

ABSTRACT: Information is given on the investigation by a calorimetric method into the intensity of heat generation during friction of Al-Cu (8.2% Cu) and Cu-P (0.92% P) alloys with different arrangement of solid components. Furthermore, the authors present results of investigations into hard-facing of friction surfaces as well as results of measurements of the magnitude of friction forces with changes in the slipping speed from 0.29 to 2.94 m/sec and in normal pressure from 12 to 50 kg/cm^2. The test was carried out on a device operating by the shaft-bearing principle under dry friction conditions. The intensity of heat generation was estimated from the amount of heat accumulated in the specimen under given friction

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The Effect of the Structural Arrangement of Solid Components in Cu-P and Al-Cu Alloys on the Intensity of Heat Generation During a Friction Process

conditions during 5 minutes per unit of the course. The degree of hard-facing was determined from changes in the microhardness of the plastic components of the alloys. It was stated that alloys with solid impurities in the form of a lattice around the plastic grains of solid solutions, under all the conditions of friction investigated, were less hard-faced and heated than alloys with separate inclusions of the strengthening phase. The strengthening phase in the form of a lattice reduced friction forces, not only on account of blocking the development of plastic shears, but also due to the reduced surface of the actual contact. It is pointed out that due to the qualitative correspondence in the variation of friction forces and the intensity of heat generation under various friction conditions, the calorimetric method can be brought into wider use to evaluate antifriction of a frictional couple.

A.N.

Card 2/2

SOV/137-59-3-6331

Translation from: Referativnyy zhurnal. Metallurgiya, 1959, Nr 3, p 199 (USSR)

AUTHORS: Savitskiy, K. V., Shvartsman, Ya. V.

TITLE: An Investigation of Plastic Deformations Arising From Friction Between Two Metallic Surfaces (Issledovaniye plasticheskikh deformatsiy, voznikayushchikh v protsesse treniya metallicheskoy pary)

PERIODICAL: Sb nauchn. tr. Tomskiy inzh.-stroit. in-t, 1958, Vol 4, pp 107-116

ABSTRACT: Plastic deformations (PD) due to friction (F) were studied on U-12 steel and on Al-Cu (8% Cu) and Cu-P (1% P) alloys, the solid constituents of which were distributed either in the form of a continuous network along the boundaries of plastic grains or in the form of isolated inclusions in a soft matrix. The experiments were conducted under conditions of dry F at a velocity of 0.29 m/sec and at specific pressures of 12-50.4 kg/cm^2. In studying the PD, the microhardness method was employed together with a metallographic analysis and slip-line studies. It is shown that the magnitude of the PD is a function of the parameters of F and that it is governed by the structure of the F couple. Compared with alloys

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An Investigation of Plastic Deformations Arising From Friction (cont.)

having a hard network-type phase, work-hardening of the contact surfaces of specimens having isolated inclusions in their structure becomes more intense, particularly in the case of the Al-Cu alloy, as the loading is increased. Such specimens exhibit a considerably larger number of slip lines and a greater depth of PD. The presence of networks of a solid phase in cast alloys and in steel containing lamellar pearlite restricts the propagation of the slip lines. In this instance, a reduction in the depth of the PD is attributable to the destruction of this hard-phase shell.

A. N.

SOV/123-59-15-58959

Translation from: Referativnyy zhurnal. Mashinostroyeniye, 1959, Nr 15, p 17 (USSR)

AUTHORS: Savitskiy, K.V., Ilyushchenkov, M.A.

TITLE: Investigations of the Temperature Resistance of the Hardened Surface Layers of Metals Undergoing Friction Stress at Various Normal Loads

PERIODICAL: Uch. zap. Tomskiy un-t, 1958, Nr 32, pp 182 - 187

ABSTRACTS: Tests were made with specimens of low-carbon steel and commercial copper. The data obtained show that changes in the state of the outer layers of rubbing bodies are taking place on account of an increase of pressure (load). The existence of a close relation between the magnitude of residual deformation and hardness permits one to make a conclusion, on the basis of measurements of the microhardness, concerning the qualitative differences of stress deformation, resulting from a change in the friction conditions. It can be presumed that an increase of pressure on the contact surface of rubbing bodies leads to a redistribution of deformations

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SOV/137-59-7-15644

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Translation from: Referativnyy zhurnal, Metallurgiya, 1959, Nr 7, p 208 (USSR)

AUTHORS: Savitskiy, K.V., and Zagrebennikova, M.P.

TITLE: The Effect of Sliding Speed on the Temperature Stability in Surface Layers of Cold Hardened Metals Subjected to Friction

PERIODICAL: Uch. zap. Tomskiy un-t, 1958, Nr 32, pp 188 - 193

ABSTRACT: Investigations were carried out into the effect of sliding speed upon temperature stability in cold hardened metal surfaces subjected to friction. Experiments were carried out on 10 x 10 x 10 m^3 specimens of commercial and low carbon steel; the specimens were bored-out on the one side to a diameter of 6 mm; then they were polished with the use of a micro-sandpaper and annealed in a vacuum at 700°C for one hour. A hardened steel slide block of 10 x 10 x 50 mm^3 with fineground lateral surfaces was used as a counterbody. Grinding of the specimens was carried out on a special device with a pressure of 10 kg/mm^2 for Cu and 15 kg/mm^3 for steel, at a sliding speed $V_1 = 2.3 \cdot 10^{-4}$ cm/sec and $V = 3 \cdot 10^2$ cm/sec. Dynamic velocity was obtained by the impact of a falling load upon the front surface of the steel block. Changes in the properties of the

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The Effect of Sliding Speed on the Temperature Stability in Surface Layers of Cold Hardened Metals Subjected to Friction

specimen surfaces deformed by friction were evaluated by the magnitude of microhardness measured at a load of 20 g for Cu and 50 g for steel. It was stated that the sliding speed had a substantial effect on the properties of the metal surface layers and on the intensity of softening in subsequent annealing. It was assumed that the character of the deformation field with changing sliding speed depended upon the physical properties of friction bodies and other conditions of friction.

Z.F.

Card 2/2

20-119-3-25/65

AUTHORS: Savitskiy, K. V., Zagrebennikova, M. P.

TITLE: An Investigation of the Temperature Stability of the Deformation Distortions and of the Kinetics of the Softening of the Friction Surface (Issledovaniye temperaturnoy ustoychivosti deformatsionnykh iskazheniy i kinetiki razuprochneniya poverkhnostey treniya)

PERIODICAL: Doklady Akademii Nauk SSSR, 1958, Vol. 119, Nr 3, pp. 490-493 (USSR)

ABSTRACT: As material for the investigation, which here is discussed, served polycrystalline copper. In 2 test series the influence of the gliding velocity and of the normal stress upon the intensity of the softening of the surface layers in dependence on the duration of annealing at various temperatures was investigated. The samples were heated either in a paraffin bath or in a lead bath to 200, 300, 350, 400, and 450°C. The duration of heating the test pieces was from 0,5 to 60 minutes. The decrease in strength was estimated from the magnitude of the micro hardness. A diagram illustrates the curves for the dependence of the micro strength of the friction surfaces of the copper samples on the duration of

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An Investigation of the Temperature Stability of the Deformation Distortions and of the Kinetics of the Softening of the Friction Surface

annealing at various temperatures. In all the cases of annealing temperatures the strength of the surface layers, which were deformed by friction, decreased much in the first minutes of annealing. Then this decrease becomes noticeably weaker and in case of sufficiently long duration of annealing the hardness reaches a certain stationary value. An exception is only the annealing at 300°C. The isothermal lines of recovery surpass the horizontal and this speaks for the fact that the distortions in a plastically deformed metal have different temperature stabilities. A successive increase of the annealing temperature on to a given temperature in the same samples does not decrease noticeably the stationary values of hardness compared with that case where the samples were annealed at this temperature without interruptions of annealing. In case of low gliding velocity the stationary value of the hardness at all annealing temperatures is reached in case of a relatively longer duration of annealing than in the case of the samples, which were worked at increased gliding velocity. The differences in the kinetics of the recovery and especially the presence of an inversion

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of the isothermal curves speak for the following: The gliding velocity has a certain influence upon the temperature stability of the deformation distortions of the lattice of the surface layers of the metals, which actively take part in the friction. This influence still remains noticeable even after a one-hour annealing at 450°C. The second test series gave data on the influence of the normal pressure upon the softening of the friction surfaces at various temperatures in dependence on the duration of annealing. The velocity of the strength decrease of the sample, deformed at high normal pressures, in the initial state is always higher than in case of low pressures. In case of increase of the annealing temperature the velocity of the strength diminution of the samples decreases. A change of the external parameters of the friction leads to a change in the distribution of the deformation distortions with regard to the degree of their temperature stability. This also has a noticeable influence upon the intensity of the strength diminution of grating surfaces in the subsequent processes

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of annealing.
There are 4 figures and 3 references.

ASSOCIATION: Sibirskiy fiziko-tekhnicheskiy institut pri Tomskom gosudarstvennom universitete im. V. V. Kuybysheva (Sibirian Physical-Technical Institute at the Tomsk State University imeni V. V. Kuybyshev)

PRESENTED: May 5, 1957, by I. P. Bardin, Member, Academy of Sciences, USSR

SUBMITTED: May 5, 1957

AVAILABLE: Library of Congress

SAVITSKIY, K. V., Doc Phys-Math Sci (diss) -- "Investigation of plastic deformations and the properties of external layers of metallic bodies under various friction conditions". Tomsk, 1959. 16 pp (Tomsk State U im V. V. Kuybyshev), 175 copies (KL, No 24, 1959, 124)

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S/686/61/000/000/010/012
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18.8200 1454 1413

AUTHORS: Savitskiy, K. V., Sukharina, N. N. and Zagrebennikova, M. P.

TITLE: Effect of the degree of dispersion of hard occlusions on the wear resistance of two phase alloys

SOURCE: Soveshchaniye po voprosam teorii sukhogo treniya i obrazovaniya chstits iznosa pri sukhom trenii. Riga, 1959, 145-154

TEXT: The authors investigated the effect of the degree of dispersion (size and number of hard occlusions) of steels 45 and У8 (U8) and of Duralumin Д1 (D1) on their wear resistance under friction. The steels were quench-hardened at 820- 840°C and tempered at 680°C to obtain several series of samples containing different sizes and numbers of the hard Fe_3C occlusions. Duralumin was quenched and subjected to forced ageing in order to prepare four series of samples with different sizes and numbers of the hard $CuAl_2$ occlu-

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sions. The resistance to wear was found by dry sliding friction (1 m/sec and 30 kg load for steels, 1,1 m/sec and 20 kg/cm^2 pressure for duralumin) and by lubricated friction. Duralumin was also rubbed with emery cloth using the method of M. M. Krushchov and M. A. Babichev (Ref. 7: Sbornik: Treniye i iznos v mashinakh (Collection: Friction Wear in Machines), vol. IX, Izd. AN SSSR, 1954). The degree of dispersion was represented by the mean distance between occlusions (λ). Since the total amount of Fe_3C or $CuAl_2$ was the same in a given material, a small λ signified high degree of dispersion, i.e. a large number of small occlusions. A large value of λ represented a small number of large occlusions. The initial microhardness of the two steels and of duralumin was greatest in high-dispersion samples and smallest in those with low dispersion. The frictional wear of steels increased, in general, with decrease of microhardness, except in the softest samples where wear was unexpectedly relatively low. This was due to hardening of the softest steel samples (with the largest λ) by friction during tests; this hardening improved their wear resistance. The degree of

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Effect of the degree ...

friction hardening was greatest (about 370%) in the softest steel samples. In the case of duralumin the dry-friction wear was almost independent of λ and, therefore, of the initial microhardness, but the lubricated friction wear was greater in harder samples (small λ) than in softer ones. It was found that dry friction hardened the softer samples of duralumin in such a way that they all had the same microhardness. There are 6 figures, 2 tables and 12 Soviet-bloc references.

ASSOCIATION: Sibirskiy fiziko-tekhnicheskiy institut (Siberian Physico-Technical Inatitute)

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Card 3/3

69148

S/139/59/000/06/004/034
E091/E135

18.1210

AUTHORS: Savitskiy, K.V., and Zagrebennikova, M.P.

TITLE: Influence of Dispersion of $CuAl_2$ Inclusions on the Temperature-Rate Dependence of Mechanical Properties of Duralumin

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Fizika, 1959, Nr 6, pp 14-20 (USSR)

ABSTRACT: The behaviour of duralumin D-1 (Cu 3.94%, Mg 0.59%, Fe 0.54%, Mn 0.76% and Al 94.17%), in which $CuAl_2$ particles of various sizes are dispersed through a θ-solid solution matrix, was studied at various temperatures and at various compression rates. The degree of dispersion of the particles was judged by their number per sq mm (which varied between 115.10^4 and 32.10^4) and also by the value of r, the mean distance between the particles (which varied between 0.8 μ and 2.2 μ). In view of the fact that the grain size of the matrix can exert a considerable influence on the mechanical properties of the material, the authors tried to minimise the influence of this factor by ensuring an approximately equal grain size of the matrix in all investigated specimens (0.06-0.08 mm). From the material

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